

## REMARKS

Reconsideration and the timely allowance of the pending claims, in view of the following remarks, are respectfully requested.

In the Office Action dated August 28, 2006, the Examiner rejected claims 1, 5, 21, and 25-26, under 35 U.S.C. §102(b), as allegedly being anticipated by Kobayashi '792 (U.S. Patent No. 5,936,792); and rejected claims 2 and 22-23, under 35 U.S.C. §103(a), as allegedly being unpatentable over Kobayashi '792 in view of Kurosawa'716 (U.S. Patent Pub. No. 2002/0145716).

By this Amendment, independent claims 1 and 21 have been amended to provide a clearer presentation of the claimed subject matter. Applicant submits that no new matter has been introduced. As such, claims 1-10 and 21-28 are currently presented for examination, of which claims 1 and 21 are independent.

Applicant respectfully traverses the prior art rejections, under 35 U.S.C. §102(b), §103(a) for the reasons presented below.

### I. Prior Art Rejections Under 35 U.S.C. §102(b), §103(a).

As indicated above, amended independent claim 1 positively recites, *inter alia*, that the estimator unit is configured to calculate an estimated relation between the signal indicative of the control force and status information of the mass ***and generate an estimated mass signal*** and that the third input that receives a feed-forward signal indicative of the desired mass acceleration, ***as modified by the estimated mass signal***, and adds the feed-forward signal to the signal indicative of the control force to determine the control force that achieves the desired mass acceleration. These features are amply supported by the embodiments described in the Specification. (*See*, Original Specification, par. [00077] – [00079]; [00082]-[00084]; [00085]-[00097]; FIGs. 2, 3).

In contrast to the Examiner's assertions, there is nothing in the asserted references that teach all of the elements recited in claim 1, including the features indicated above. In particular, the Kobayashi '792 reference is directed to a positioning control system to control a head driving system of a magnetic disk unit. (*See*, Kobayashi '792, col. 9, lines 54-56). Kobayashi '792 discloses the use of an adaptive controller 12 that controls the variable gain

$\theta(k)$  of the feed forward control signal based on the minimization of square speed error signal  $ev(k)^2$ . (See, Kobayashi '792, col. 10, line 61 – col. 11, line 2; FIG. 1). In particular, an evaluation function  $E(k)$  is introduced to mathematically minimize the square of the speed error signal  $ev(k)^2$  based on the relationship  $uv(k)=kv \cdot ev(k)$  and an adaptive control rule 11,  $\theta(k+1)$ , is applied to control the acceleration feed forward variable gain  $\theta(k)$  by using a gradient method that minimizes evaluation function  $E(k)$ . (See, Kobayashi '792, col. 11, lines 29-46; FIG. 1).

However, without conceding to the Examiner's characterizations of the other claim elements or the alleged teachings of the prior art, in no instance throughout the comprehensive Kobayashi '792 reference, is there a suggestion or even a hint that adaptive controller 12 *generates an estimated mass signal*, as required by claim 1. Nor is there anything in Kobayashi '792 that suggests the use of third input that receives a feed-forward signal indicative of the desired mass acceleration, *as modified by the estimated mass signal*, and adds the feed-forward signal to the signal indicative of the control force to determine the control force that achieves the desired mass acceleration, as also required by claim 1.

Applicant further submits that Applicant submits that the Korenaga '721 reference fails to both cure the deficiencies of Kobayashi '792 identified above as well as teach each and every element of the claimed invention in its own right. Thus, for at least these reasons, Applicant submits that none of the references, whether taken alone or in reasonable combination, teach the claimed combination of elements recited by amended claim 1. Thus, claim 1 is patentable over the references. And, because claims 2-10 depend from claim 1, claims 2-10 are also patentable by virtue of dependency as well as for their additional recitations. Accordingly, Applicant requests the immediate withdrawal of the prior art rejections of claims 1-10.

Moreover, because independent claim 21 recites features that are similar to the patentable features discussed above regarding claim 1, claim 21 is also patentable for the same reasons presented above. And, because claims 21-28 depend from independent claim 21, claims 21-28 are patentable at least by virtue of dependency as well as for their additional recitations. Accordingly, Applicant requests the immediate withdrawal of the prior art rejections of claims 21-28.

II. Conclusion.

All matters shaving been addressed and in view of the foregoing, Applicant respectfully request the entry of this Amendment, the Examiner's reconsideration of this application, and the immediate allowance of pending claims 1-10 and 21-28.

Applicant's Counsel remains ready to assist the Examiner in any way to facilitate and expedite the prosecution of this matter. If any point remains in issue in which the Examiner feels may be best resolved through a personal or telephone interview, please contact the Undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number **03-3975**.

The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,  
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